Energy and Life Processes

The ­\_\_\_\_\_\_\_\_\_ is the center of our solar system. Without the sun, our solar system would not exist. Earth is unique among all planets in the solar system. Its distance from the sun ensures that the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on Earth will support life. Earth has an atmosphere and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which are also characteristics of a planet that will support life. Ecosystems on Earth consist of all the living (\_\_\_\_\_\_\_\_) and nonliving (\_\_\_\_\_\_\_\_\_\_\_) components in a specific area. Recycling of biotic and abiotic materials in processes such as the \_\_\_\_\_\_\_\_\_ cycle, \_\_\_\_\_\_\_\_\_\_\_\_ cycle, and \_\_\_\_\_\_\_\_\_\_\_ cycle ensure that nutrients necessary to support life are continually available. \_\_\_\_\_\_\_\_\_\_\_ from the sun is used by autotrophs to produce food through the process of \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Heterotrophs are all directly or indirectly reliant on these producers for survival either because they are herbivores, or consumers that eat herbivores or consumers of herbivores. Producers comprise the first trophic level in an ecosystem’s energy pyramid. \_\_\_\_\_\_\_\_\_\_\_ of the energy available at this first trophic level is passed on to first-order consumers at the next trophic level. \_\_\_\_\_\_\_\_\_\_\_- and \_\_\_\_\_\_\_\_\_\_-order consumers comprise the last two trophic levels of the energy pyramid. At each level, only ten percent of the energy available at the previous level is passed on. Other energy is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to support life processes of the organisms (e.g., digestion, growth, temperature regulation) or otherwise changed during natural events (e.g., decomposition). Energy transfer in an ecosystem can be graphically represented using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; food webs are multiple interconnected food chains. Emphasis is on investigation and prediction of plant responses to different environments, and accurate and precise measurements relating to those responses. Also emphasized is tracing the flow of energy through an ecosystem using graphic representations.

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Word Bank

Ten % food webs sun biotic

Abiotic temperature water 3rd

Water nitrogen photosynthesis 2nd

Carbon Energy transformed food webs

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\*correct the following words in the paragraph (write the word above the jumbled word or to the side of the paragraph))

***nyegrE*** from the ***nus*** is what makes ***rathE*** unique in its ability to support ***feli***. Energy cannot be ***tedraec*** or ***ddeesyort***, only ***ferredtrans*** or ***formedtrans***. ***yEnger*** of ***noitom*** is discussed in a previous unit. Energy and its use for life ***prcoessse*** will be discussed in relationship to chemical processes that occur within ***hmuan boyd*** systems in a later unit. ***dAatpations*** of ***rognaissm*** make them especially well-suited for ***lefi*** in specific ***sytsmesoce***, and are discussed in a previous unit

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Energy from the sun is what makes Earth unique in its ability to support life. Energy cannot be created or destroyed, only transformed or transferred.

\*Rewrite the above statement in the space provided below: Then explain what the statement is talking about.